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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/572,679

01/08/2007

Shigeyuki Ono

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EXAMINER

LOUDEN, CLIFFORD J

ART UNIT

PAPER NUMBER

3679

MAIL DATE

DELIVERY MODE

10/01/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/572,679	<b>Applicant(s)</b> ONO ET AL.	
	<b>Examiner</b> CLIFFORD J. LOUDEN	<b>Art Unit</b> 3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 March 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>06/15/2006</u> . | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Drawings*

1. Figures 6, 7A and 7B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "1" has been used to designate both standard and modified versions of a cylindrical bellows part. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application.
3. The drawings are objected to under 37 CFR 1.84(h)(5) because Figures 4A-C show(s) modified forms of construction in the same view. Figures 3 and 4A-C show projection lines between separate views. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the

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appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

#### Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.

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- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

4. The disclosure is objected to because of the following informalities: Paragraph [0006] recites (For example, patent document 1 discloses ...etc.) followed at the bottom of the page with the identification of the document. Reference to the document should be made within the reciting paragraph itself, i.e. --For example, Japanese Unexamined Utility Model Publication No. 1-118227 discloses ...etc.--.

Appropriate correction is required.

*Claim Rejections - 35 USC § 112*

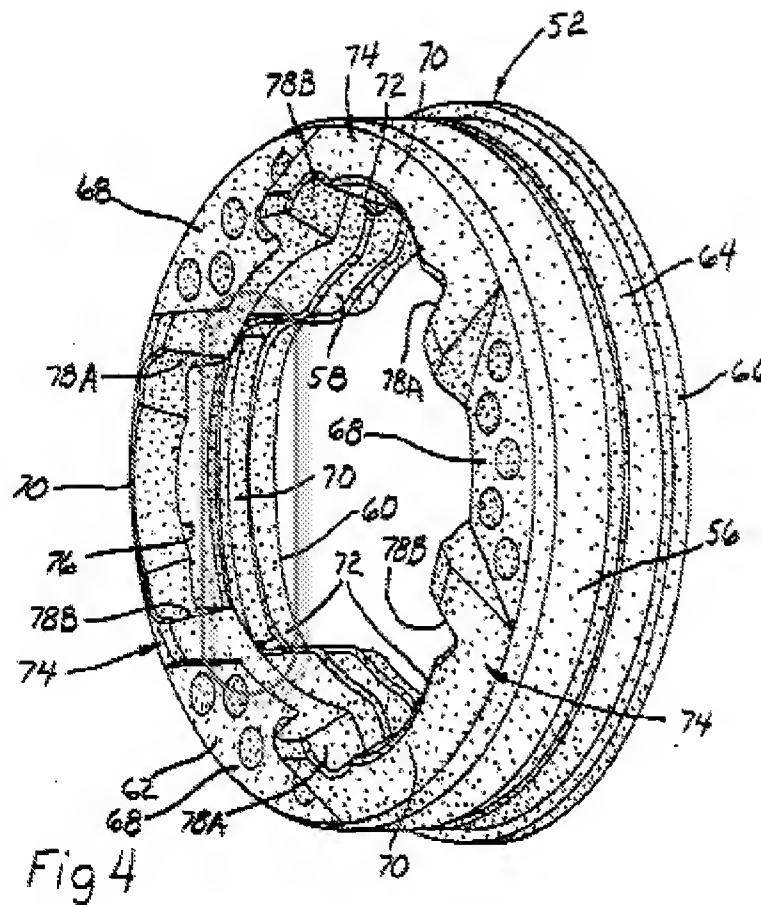
5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "when it is assumed that" in line 2 allows for the possibility that it is in fact a choice and leaves the claim ambiguous. For the purpose of examination the examiner interprets the claim to define the angle  $\theta_1$  to be the angle formed by the surface located on the side near the outside of the boot and the inner peripheral surface and the angle  $\theta_2$  to be the angle formed by the surface located on the side near the inside of the boot and the inner peripheral surface.

*Claim Rejections - 35 USC § 103*

7. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schulz et al., US 5,529,538. Schulz et al. show a universal joint boot comprising: a cylindrical bellows part (42) that has valley and peaks formed continuously in a repetitive manner (shown in Fig. 1) and can extend and contract (shown in Fig. 2); a ring-shaped mounting part (52) that is formed at one end of the bellows part and into which a case (12) for receiving one member of two members moving relatively to each other is inserted (shown in Fig. 1); and a seal lip (70) that is formed toward a peripheral direction of an inner peripheral surface of the mounting part to which the case is mounted (shown in Fig. 4), wherein the inner peripheral surface has protrusions (68) protruding toward an axial center of the ring-shaped mounting part, and wherein a height of the seal lip becomes lower from a bottom of the protrusion to a peak (shown encircled in the diagram below).



Schulz et al. do not expressly disclose wherein a width of the seal lip becomes wider from the bottom of the protrusion to the peak. However, at the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the seal lip to provide an increase of surface area for the purpose of improving the frictional seal between the bushing and the tulip housing.

8. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schulz et al., US 5,529,538 as applied to claim 1 above, in view of Okuyama, US 5,558,580. Schulz et al. does

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not expressly disclose the universal joint boot wherein when it is assumed that, of two surfaces forming the seal lip, one surface located on the side near the outside of the boot forms an angle  $\theta_1$  with respect to the inner peripheral surface, and the other surface located on the side near the inside of the boot forms an angle  $\theta_2$  with respect to the inner peripheral surface, and the angle  $\theta_1$  is smaller than the angle  $\theta_2$ .

Okuyama teaches a universal joint boot wherein when it is assumed that, of two surfaces forming the seal lip (5), one surface located on the side near the outside of the boot forms an angle  $\theta_1$  (A1) with respect to the inner peripheral surface, and the other surface located on the side near the inside of the boot forms an angle  $\theta_2$  (A2) with respect to the inner peripheral surface, and the angle  $\theta_1$  is smaller than the angle  $\theta_2$  for the purpose of maintaining high sealing properties even in the presence of uneven surface pressure (Col. 2, L1-27).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to provide the universal joint boot of Schulz et al. with the seal lip of Okuyama with the reasonable expectation of maintaining high sealing properties even in the presence of uneven surface pressure.

### *Conclusion*

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sadr et al. (US6089574) discloses a boot with an insertable bushing. Hutchet et al. (US2002/0043772) disclose a protective bellows.



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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CLIFFORD J. LOUDEN whose telephone number is (571)270-5504. The examiner can normally be reached on Monday through Thursday, 8:00AM to 4:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Nguyen can be reached on (571)272-6952. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Greg Binda/  
Primary Examiner, Art Unit 3679

/CLIFFORD J LOUDEN/  
Examiner, Art Unit 3679